REDACTED VERSION

DECLARATION OF JOHN MICHAEL LOUNGE

I, JOHN MICHAEL LOUNGE state as follows:

1. I have been asked by PlanetSpace to provide expert testimony in connection with certain "public interest" issues that I am told may be relevant to its bid protest.

Personal Background and Experience

2. I have over thirty years experience working in the aerospace industry, including over ten years with NASA as a Space Shuttle astronaut and nearly twenty years with private industry supporting NASA. I have significant experience with aerospace design and program management.

3. I am a graduate of the U.S. Naval Academy, where I earned a Bachelor of Science degree in Physics and Mathematics (1969). I also have a Master of Science degree in Astrogeophysics from the University of Colorado at Boulder (1970).

4. I am presently a technical and business development consultant to aerospace companies. I recently retired from The Boeing Company ("Boeing"), where I served as the Director for Business Development in the company's Space Exploration Division starting in 2002. In this capacity, I was responsible for developing strategies to acquire new business in the aerospace field and for overseeing related research and development activities. I also led numerous human space flight development and operations proposals. I am familiar with the technical and financial requirements of successful space flight plans, and industry standard practices.

5. Before joining Boeing, I was a Senior Vice President at SPACEHAB, Inc., currently known as Astrotech Corporation. I worked at SPACEHAB and its subsidiary Johnson

Engineering from 1991 to 2002. I had primary responsibility for flight hardware development and other engineering activities in support of the company's NASA contracts and commercial initiatives.

6. During my tenure at SPACEHAB, the company developed and manufactured pressurized modules that fit into the cargo bay of the Space Shuttle. These modules provided accommodations for laboratory experiments and mission cargo. The company also supported astronaut training and configuration management.

7. SPACEHAB successfully performed several fixed price NASA contracts. In 1990, SPACEHAB was awarded a $184.2 million, fixed-price Commercial Middeck Augmentation Module ("CMAM") contract to furnish NASA with module accommodations for experiments on five Space Shuttle missions. I was the Deputy Program Manager and Director of Flight Operations for the CMAM contract, which was successfully completed in September 1996.

8. Before joining SPACEHAB, I worked for NASA at the Johnson Space Center ("JSC") from 1978 to 1991. I was a Space Shuttle astronaut and flew on three NASA missions. I was a Mission Specialist on STS-51I in 1985 and STS-26 in 1988, and on STS-35 in 1990. In total, I logged over 482 hours in space. During my time at NASA, I received the JSC Superior Achievement Award (for service as a member of the Skylab Reentry Team), three NASA Exceptional Service Medals, and three NASA Space Flight Medals.

9. I served in the U.S. Navy between 1969 and 1979, as a Naval Officer and a Naval Flight Officer. I logged 2,000 hours of flight time in F-4 Phantom aircrafts and flew approximately 100 combat missions. I also received six Navy Air Medals and three Navy

Commendation Medals. Following my active duty service, I was also a member of the Texas Air National Guard from 1980 to 1991.

10. Since early 2008, I have served as a member of the Commercial Space Transportation Advisory Committee ("COMSTAC"), which provides information, advice, and recommendations to the Department of Transportation and the Administrator of the Federal Aviation Administration on critical matters facing the U.S. commercial space transportation industry. I am also an Associate Fellow of the American Institute of Aeronautics and Astronautics, the world's largest technical society dedicated to the global aerospace profession.

11. In forming my opinion, I have reviewed NASA's International Space Station Resupply Request for Proposals, RFP-NNJ08ZBG001R, which calls for the provision of cargo resupply missions to the International Space Station following the retirement of the Space Shuttle; PlanetSpace's bid proposal, submitted to NASA in connection with that RFP; and publicly available information about the two other competing proposals for those missions, specifically, the proposal by Space Exploration Technology to use its proposed Falcon 9 launch vehicle, and the Orbital Sciences Corporation proposal to use its proposed Taurus II launch vehicle.

12. In assessing the public interest, I have applied the concept of "assured access," as defined in the U.S. Space Transportation Policy (Jan. 6, 2005). "Assured access" is defined in that Policy as "a sufficiently robust, responsive, and resilient capability to allow continued space operations, consistent with risk management and affordability." I have applied that concept based on facts as of the date of this declaration.

13. Based upon the materials I have reviewed and my experience, and for the reasons explained more fully in this declaration, it is my professional opinion that, of the three

competing proposals (PlanetSpace, Space Exploration Technology and Orbital Science Corporation), PlanetSpace's proposal is the only one that will provide a sufficiently robust, responsive, and resilient capability to the International Space Station for resupply of cargo following the retirement of the Space Shuttle.

I. PlanetSpace's Bid Proposal Provides the Only Domestic Means of Assured Access to the International Space Station

14. The Space Shuttle currently provides the majority of the US's portion of International Space Station resupply activities. However, NASA plans to retire the Space Shuttle by the end of 2010. NASA will have to transport approximately 80 metric tons to the International Space Station between the Shuttle's retirement in 2010 and its planned deorbit sometime after 2015.

15. While NASA's international partners in the International Space Station will provide some space transportation services, NASA expects a shortfall of between 40 and 60 metric tons. The International Space Station Commercial Resupply Services (CRS) contractors are expected to make up for this shortfall in resupply services. To my knowledge, these contractors are the only domestic source of resupply services until NASA's Orion project is completed, sometime after 2015.

16. Pursuant to RFP NNJ08ZBG001R, NASA selected Orbital Sciences Corporation and Space Exploration Technology to provide the required International Space Station Resupply Services. PlanetSpace bid for the work, but was not selected.

17. Orbital Sciences Corporation plans to use a new launch vehicle called the Taurus II for all of its resupply missions.

18. SpaceX plans to use a new launch vehicle called the Falcon 9 for all of its resupply missions.

19. PlanetSpace proposes to use the existing United Launch Alliance Atlas V launch vehicle for its first mission, and the new Athena III launch vehicle for the remaining launches. However, PlanetSpace also proposes that the Atlas V could be used for additional missions if the Athena III was not yet available.

20. Each of the new launch vehicles proposed for use in International Resupply missions is still in development. Therefore, none of them have been flight tested and certified for use in launching NASA payloads.

21. In my experience, the development of new launch vehicles is a complicated engineering challenge that often takes longer than expected, resulting in launch delays for those vehicles.

22. Delays in launch vehicle development for CRS cargo delivery could have a severe negative impact on NASA's International Space Station program. Failure of either of the two currently selected launch vehicles to be mission ready for scheduled resupply missions would prevent NASA from fully utilizing the capabilities of the International Space Station, and in the event of serious delays, jeopardize the viability of the entire program. *See, e.g.*, GAO Report to Congress, "Commercial Partners are Making Progress but Face Aggressive Schedules to Demonstrate Critical Space Station Cargo Transport Capabilities" at 30 (June 2009). The GAO report notes that each of the ISS resupply partners have encountered schedule slips -- amounting to several months each -- in the development of their launch vehicles. *Id.* at 21, 28. The report notes that several milestones required to be completed before either launch vehicle would be ready for use, including mission readiness and safety reviews, would be affected by these schedule slips. *Id.* Because of the retirement of the Space Shuttle before ISS resupply activities are set to commence, NASA has little margin to absorb any development delays in

these launch vehicles and maintain the International Space Station in accordance with existing plans. *Id.*

23. The current availability of a proven, flight ready launch vehicle would obviate many of these concerns. As noted above, PlanetSpace proposes to use Atlas V launch services for as long as necessary prior to the readiness of its Athena III vehicle. The Atlas V is an existing launch vehicle that has flown successfully 85 times, and would require no development prior to its use in International Space Station resupply missions. NASA's confidence in the reliability of this launch system is proven by the fact that in March of this year, NASA ordered four Atlas V launches between 2011 and 2014 to deliver satellites into low earth orbit. *See* "United Launch Alliance Atlas V Awarded Four NASA Rocket Launch Missions," (March 16, 2009) *available at* *http://www.redorbit.com/news/business/1655079/united_launch_alliance_atlas_v_awarded_four_nasa_rocket_launch/.*

24. Thus, even if PlanetSpace faces delays in the development of its proposed new launch vehicle, the Athena III, it may use the flight-proven Atlas V launch vehicle.

25. Of the three participants in the International Space Station Resupply procurement, PlanetSpace is the only one that proposes the use of an assured access launch vehicle, such as the Atlas V. Assured access to the International Space Station is critical to fulfilling NASA's International Space Station Goals after the retirement of the Space Shuttle.

Financing Plan

26. Use of the Atlas V vehicle instead of the Athena III, if necessary, is consistent with PlanetSpace's business model. PlanetSpace appears to have ample financial resources and appropriate subcontractor commitments.

27. PlanetSpace's projected cash need to carry out its ISS Resupply plan is [redacted] I have reviewed the financing plan, and documents related to it, and from this review it appears that PlanetSpace has financing commitments of [redacted] as follows:

[redacted]

28. In addition, PlanetSpace will benefit from the research and development contributions expended by its subcontract partners. Lockheed Martin and ATK project to expend [redacted] on research and development into systems that are directly relatable to the PlanetSpace effort.

29. Accordingly, PlanetSpace's financing plan includes [redacted] cash over projected need, or a [redacted]% margin. Such a margin will allow PlanetSpace to absorb cost overruns. Indeed, because the Atlas V is an existing vehicle needing no development expenditures, use of it instead of the Athena III would reduce necessary cash, improving PlanetSpace's financing margin further.

30. PlanetSpace's financing plan does not include all sources of projected income, making it highly likely that the Company will have an even greater margin of available cash to finance operations. PlanetSpace's financing plan does not include additional sources of cash flow, such as non-NASA customer launches. [redacted] Selling this additional launch capacity will allow PlanetSpace to raise several hundred million dollars and improve its cash position. [redacted]

Subcontract Arrangements

31. "Cost plus" subcontracting arrangement with major suppliers are well within industry norms, and, as such, are unlikely to undermine PlanetSpace's ability to provide assured access to the International Space Station. Prime contractors, including small businesses like PlanetSpace, routinely use cost-plus subcontracts under fixed-price prime contracts.

32. For example, in 1990, SPACEHAB was awarded a $184.2 million, fixed-price Commercial Middeck Augmentation Module ("CMAM") contract to furnish NASA with module accommodations for experiments on five Space Shuttle missions. In 1995, SPACEHAB was awarded a fixed-price contract to provide module accommodations for the provision of logistics resupply to the *Mir* Space Station. The value of this contract eventually grew to $91.5 million. This contract involved a total of seven Space Shuttle Missions. I oversaw the development of SPACEHAB's proposal for this contract, and then served as the Program Manager during contact performance. The contract was successfully completed in June 1998. In June 1997, SPACEHAB was awarded a third fixed-price module contract, the Research and Logistics Mission Support ("REALMS") contract. The REALMS contract was a $224.5 million contract.

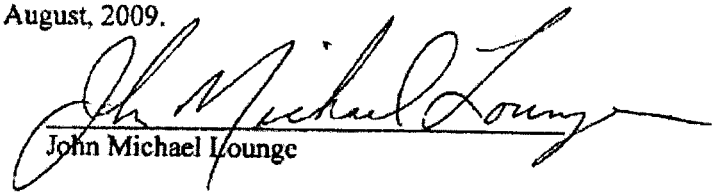
33. During performance of each of these fixed-price contracts, SPACEHAB relied on major subcontracts to McDonnell Douglas Space Systems Company to perform approximately 95% of the work required under the prime contracts. McDonald Douglas, which operated under cost-reimbursement subcontracts, was responsible for designing and building, and outfitting the module the cargo that carried the cargo, and for providing related cargo integration and operations services. These contracts were successfully performed with no appreciable cost-overruns on the subcontract work. More importantly, SPACEHAB was profitable on these contracts without any change in price paid by the government.

34. Given the relatively small percentage of work to be performed under PlanetSpace's subcontracts on a cost-plus basis, and the fact that much of this work itself will be further subcontracted on a fixed-fee basis, there are no appreciable cost-based performance risks involved in this arrangement.

35. Based on the foregoing, especially because PlanetSpace proposes to use a proven launch vehicle and has the financial resources to perform, it is my professional opinion that, based on current information, of the three CRS offers, PlanetSpace is the only one that provides assured access to the International Space Station.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed this 27th day of August, 2009.



John Michael Lounge